

Claims

- [c1] An electrophoretic medium comprising a plurality of at least one type of particle suspended in a suspending fluid and capable of moving therethrough on application of an electric field to the medium, the particles including at least one electrophoretically mobile specularly reflective particle.
- [c2] An electrophoretic medium according to claim 1 comprising a single type of electrophoretically mobile, specularly reflective particle in a colored suspending fluid.
- [c3] An electrophoretic medium according to claim 1 wherein the specularly reflective, electrophoretically mobile particle has a first optical characteristic, and the medium further comprises a second type of particle which has a charge of opposite polarity to that of the first particle and is electrophoretically mobile, and has a second optical characteristic different from the first optical characteristic.
- [c4] An electrophoretic medium according to claim 3 wherein the suspending fluid is substantially uncolored.

- [c5] An electrophoretic medium according to claim 3 further comprising a third type of particle which has a charge of the same polarity as the specularly reflective particle, is not specularly reflective, and is electrophoretically mobile.
- [c6] An electrophoretic medium according to claim 5 wherein the third type of particle has a higher electrophoretic mobility than the specularly reflective particle.
- [c7] An electrophoretic medium according to claim 5 further comprising a fourth type of particle which has a charge of the same polarity as that of the second type of particle, is electrophoretically mobile, and is specularly reflective.
- [c8] An electrophoretic medium according to claim 1 further comprising a second type of particle which has a charge of the same polarity as that of the specularly reflective particle but has a higher electrophoretic mobility than the specularly reflective particle.
- [c9] An electrophoretic medium according to claim 8 wherein the second type of particle has a first optical characteristic, the electrophoretic medium further comprising a third type of particle which has a charge of the opposite polarity to that of the second type of particle, is elec-

trophoretically mobile, and has a second optical characteristic different from the first optical characteristic.

- [c10] An electrophoretic medium according to claim 1 wherein said specularly reflective particles comprise one or more of aluminum, platinum, palladium, silver, gold, nickel, copper, chromium titanium, zinc, iron, stainless steel, tungsten, molded and polished plastic chips, bismuth oxychloride (BiOCl), mica (CaCO_3), or titania (TiO_2) or iron oxide (Fe_2O_3) particles adhered to the surface of mica or bismuth oxychloride.
- [c11] An electrophoretic medium according to claim 1 wherein the specularly reflective particle has an aspect ratio of at least 3.
- [c12] An electrophoretic medium according to claim 11 wherein the specularly reflective particle has an aspect ratio in the range of about 5 to about 25.
- [c13] An electrophoretic medium according to claim 1 wherein the specularly reflective particle has a major axis length of about 1 μm to about 15 μm .
- [c14] An electrophoretic medium according to claim 3 wherein the second type of particle comprises carbon black.
- [c15] An electrophoretic medium according to claim 14

wherein the carbon black particles bear a polymer coating.

[c16] An electrophoretic medium according to claim 5 wherein the third type of particle comprises titania

[c17] An electrophoretic medium according to claim 16 wherein the titania particles bear a polymer coating.

[c18] An electrophoretic medium according to claim 1 comprising at least one capsule having a capsule wall encapsulating the at least one type of particle and the suspending fluid.

[c19] An electrophoretic medium according to claim 1 comprising a substrate having a plurality of closed cells formed therein, the at least one type of particle and the suspending fluid being retained in the closed cells.

[c20] An electrophoretic display comprising an electrophoretic medium according to claim 1 and at least one electrode disposed adjacent to the electrophoretic medium.